PhD Handbook- Updated 5/18/2020

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Statement of Purpose
The purpose of the Carolina Health Informatics Program’s doctoral program is to prepare graduates to contribute to the field of biomedical and health informatics studies through research, teaching and exposure to practical BMHI challenges. The doctoral program prepares scholars for careers involving research and instruction as well as leadership roles in industry. The doctoral program provides students with research experience, familiarity with BMHI concepts, theories and methods. In addition, the program allows participation in an active research community as well as exposure to the thriving BMHI industry in the RTP, NC area.

Admission Process
CHIP’s PhD program attracts students with diverse backgrounds in public health, pharmacy, dentistry, IT (information systems or computing), and clinical practices (MD or RN) who are seeking advanced training for a broad range of research and leadership roles in academic, corporate, non-profit and government settings. The main career paths envisioned for graduates with a PhD in Health Informatics include: academic research and scholarship; research scientist in non-academic setting; and leadership positions, including CIO/CRO or similar in public and private health care organizations and key health policy development roles in government agencies.

Applicants should have a GPA of 3.0 or greater for all academic pursuits, GRE scores above the 50th percentile on all sections of the test and, if applicable, a minimum TOEFL score of 90.

International Students
An international student is a student who is attending UNC-Chapel Hill without U.S. Citizenship or is not a Legal Permanent Resident of the United States.

There are many resources on campus to help guide international students through the complexities that may accompany their transition to the United States. UNC Global International Student and Scholar Services is an excellent resource for international students to seek guidance with issues including arrival planning and visas.

Academic Background
Applicants must have at least a bachelor’s degree and should have a strong interest in biomedical and health informatics. Previous research experience or a master’s degree pertaining to BMHI is strongly encouraged.

Degree Requirements
The CHIP PhD program is diverse through its interdisciplinary course work and research driven projects. With the guidance of their advisers, graduate students will develop a course structure that will meet the following requirements for the PhD program:

I. 21 credit hours of Pillar course work
II. 12 credit hours of electives
III. 15 – 20 credit hours of doctoral research credit
IV. Completion of a qualifying written examination
V. Completion of a qualifying oral examination based on the written examination
VI. Admission into candidacy
VII. Completion and defense of dissertation proposal
VIII. Completion and defense of dissertation.

Each of the above requirement is explained in a dedicated section elsewhere in this handbook.

**Note:** Coursework can be transferred in from previous degrees. CHIP limits transfer credit to 15 - 18 credit hours into the doctoral degree program. The recommendation to grant transfer credit will be made on a case by case basis and will require the approval of the graduate school.

**Note:** students are required to consult and keep current with the rules and policies of the Graduate School of UNC-CH with respect to doctoral study, candidacy, dissertation defense and other topics.

**Good Standing**
A student’s adviser, committee and the UNC-Chapel Hill Graduate School will determine if a student is in good standing. The following criteria are established to evaluate whether a student is in good standing at any point during their studies. Student must always maintain a GPA of 3.0 or greater and have 36 hours of coursework completed, preferably by the end of their second year.

In accordance with UNC-Chapel Hill’s grading policy, course grades will be given on the H, P, L, F scale. If a student receives an F grade in any course, or nine credits hours of an L grade, they will immediately become academically ineligible.

H High Pass
P Pass
L Low Pass
F Fail

**Coursework**
The coursework for the PhD program is customizable and can be designed to fit each student’s interests and level of experience in various areas. The core of the doctoral coursework will be taken for five different “pillars” which form the structure of CHIP’s curriculum:

**Core & Frontier Pillar**
Core and Frontier courses will expose students to the foundational concepts in informatics. This pillar will also allow students to gain a firm understanding of where research challenges lie and the nature of these challenges. Courses in this pillar will cover advanced data modeling; data management and warehousing; data integration and networking; data presentation and visualization principles; data governance and data ethics.

6 credit hours are required.

**Tools & Infrastructure Pillar**
Tools and Infrastructure courses will go beyond the basic concepts and principles covered in core topics. This pillar will offer opportunities for students to gain experience in manipulating wide varieties of data occurring in diverse health care contexts. It will also train students to build new tools and methods for
extracting insights from health data. The courses in this pillar will cover advanced training in statistical analysis; data mining; system analysis and design; data interpretation and data quality.

6 credit hours are required.

Research Methods Pillar
Research Methods courses will focus on constructing sound research studies concentrated on various aspects of health care. The courses in this pillar will cover gathering research data; analysis of research data; drawing conclusions from research data; presenting research data; and identifying limitations based on gaps present in research data.

3 credit hours are required.

Project Management & Leadership Pillar
Project Management and Leadership courses examine current techniques and methods on leading and sustaining research projects. Emphasis will be placed on project management skills in the context of developing and maintaining research projects that span a several year period.

3 credit hours are required.

Implementation Science & Research Translation Pillar
Implementation Science and Research Translation courses emphasize developing research projects with an eye toward the conversion of key outcomes that will have a direct impact on the health care of individuals or a community. Coursework in this pillar will cover understanding intellectual property rights; collaboration with stakeholders such as government, for-profit and non-profit organizations; dissemination of research; and ensuring long-term sustainability of outcomes/solution.

3 credit hours are required.

Sample Curriculum
Sample curriculum can be viewed at [http://chip.unc.edu/phd-in-hi-courses/](http://chip.unc.edu/phd-in-hi-courses/)

Comprehensive Written Exam
The purpose of the written examination is to create a manuscript that will evaluate the core topic of the doctoral student’s research focus through a broad lens. The manuscript will be a distinct scholarly product, not a dissertation proposal. The written exam will make a comprehensive and in-depth argument for why the core topic chosen by the doctoral student deserves a new study. The scope of the comprehensive paper will be an in-depth review of the literature around the core topic.

For more information on the Comprehensive Written Exam, please see the Comprehensive Exam section.

Meetings with Dissertation Committee
Upon acceptance into the doctoral program, graduate students will seek an advisor. The doctoral student should select their advisor during the first semester of their studies if possible. The student’s advisor will act as the committee chair. The remainder of the committee should be in place by the second year of the student’s program, before their coursework is completed. Committees consist of at least five faculty members, a majority of which (typically 3/5) must be members of CHIP faculty. Others
outside the program or UNC are permissible, provided they are full members of the Graduate Faculty or made “Fixed Term Appointees” by the Graduate School.

Before a doctoral student committee can be finalized for the Comprehensive Examination, students must fill out and submit the Report of Comprehensive Exam Committee form to the CHIP PhD Program Coordinator.

For more information about the committee meetings and structure, please see the Committee & Meetings section.

**Dissertation Proposal**

After successfully passing the comprehensive exam, students will develop and submit the Dissertation Proposal to their advisor. The dissertation proposal should focus solely on the specific research question the candidate is interested in addressing. In relation to the comprehensive paper, which is a survey or a review of literature of the research problem, the dissertation proposal's central focus is the proposed research, with a strong emphasis on the method the candidate will be following and applying to their research.

For more information on the Dissertation Proposal, please see the Dissertation Proposal section.

**Final Oral Defense of Written Dissertation**

The final oral defense will be held only after all members of the committee have had adequate opportunity to review a draft of the doctoral dissertation. The dissertation advisor is responsible for determining that the draft is in an appropriate form for committee evaluation. If substantial revisions are necessary, they should be completed before the final oral defense is scheduled.

The defense may be open to the public, limited in attendance to the candidate and the committee, or a combination of the two. Questions that relate the dissertation to the field are appropriate.

For more information on the Defense, please see The Defense (Final Oral Examination) section.

**Committee & Meetings**

The primary focus of the committee is to guide the student through the PhD. The committee also administers the comprehensive exam, dissertation proposal, and dissertation defense.

**Committee Structure**

Summary of committee structure:

- At least 5 members. The advisor(s) count towards this number
- A majority of the members must be faculty in CHIP
- Other members should be UNC graduate faculty or can be faculty at other institutions. (CHIP does not pay for members of other institutions to travel to Chapel Hill, except to provide parking vouchers if available.) Member from other institutions must be appointed as temporary UNC graduate faculty.

**Committee Meetings**

Student will work with their advisor/committee chair to arrange committee meetings. If complications emerge, and it is impossible for some or all committee members to be physically present for a meeting,
virtual attendance is allowed. Students are encouraged to work with the Program Coordinator to reserve a meeting room for a meeting or to set up virtual meetings.

Students are responsible for keeping their committee up-to-date with their progress and any draft revisions to their comprehensive exam, dissertation proposal and dissertation.

**Documentation - Submit all paperwork to CHIP Program Coordinator**

**CHIP Required Documentation**
- Report of Comprehensive Exam Committee Composition
- CHIP Doctoral Degree Check Form

**Responsibilities of Student**
Students are responsible for working with their advisor to determine the best committee members to fulfil Graduate School and CHIP requirements. Students are then responsible for communicating with prospective committee members and arranging committee member tenure on their committees.

Students will work with Program Coordinator to verify Graduate Faculty Designation for all committee members.

Students are responsible for turning in appropriate paperwork to Program Coordinator in order to keep the program up to date with all committee related information.

**Responsibilities of Advisor(s) & Committee Chair**
Advisors are responsible for advising their students on appropriate committee members for student’s committees. When appropriate, advisors may need to reach out to potential committee members in order to introduce the student and their project.

Should the advisor serve as committee chair, then they are also responsible for working with the student to arrange committee meetings and keeping the committee up to date with the work of the student.

**Responsibility of Committee Members**
Committee members are responsible for providing guidance for student’s research, comprehensive exam, dissertation proposal, and dissertation research.

Committee members are responsible for understanding student’s work and providing critical feedback. Committee members must also put every effort forward to attend meetings and keep up to date with student’s work.

**Comprehensive Exam**

**Comprehensive Written Exam**
The purpose of the written examination is to develop a manuscript which will evaluate the core topic of the doctoral student’s research interest through a broad lens. The manuscript will be a distinct scholarly product, not a dissertation proposal. The written exam will make a comprehensive and in-depth argument for why the core topic chosen by the doctoral student deserves a new study. The scope of the comprehensive paper will be an in-depth review of the literature around the core topic.
To encourage the development of the doctoral student’s research focus, the written comprehensive exam can be viewed as the first iteration, as to what will later develop to, the literature review in the final dissertation. (view literature review example here)

The structure of the exam should include past findings, limitations, and potential new research proposals. Key facets that should be covered in the written exam are:

1. What are the critical informatics dimensions associated with the core topic of the paper?
2. What are the critical health / wellness dimensions associated with the core topic?
3. What are the measures and methods used in the past to determine the association between the informatics dimensions and the health dimensions associated with the core topic?
4. What were the major findings and observations?
5. What were the major limitations associated with past studies associated with the core topic (both methodological and outcome/result level limitations should be discussed)?

Guidelines
Doctoral Students may begin working on their comprehensive exam during the semester in which they complete the course work for their pillar requirements. Doctoral students will not be allowed to register for course credit for their comprehensive exam until they have completed the Doctoral Exam Report Form.

Comprehensive exam coursework will be taken under the guidance of the doctoral student’s advisor. For course credit, students shall enroll in INLS 994 under the Program Director, Dr. Mostafa (Advisor- Dr. Mostafa, Professor of Information Science in the School of Information and Library Science; Course number- SILS994). Students should ensure that Dr. Mostafa stays up to date on relevant progress updates but the majority of advising will take place under the guidance of the student's official advisor.

There are no official requirements for the length comprehensive exam or number of articles that should be included in the written exam. The length and scope of the exam will vary depending on a number of
factors, including if and when the last systematic review of the core topic was conducted and the very nature of the topic itself. Doctoral students are expected to produce a review that adequately covers all the facets provided above.

JAMIA systematic reviews are the standard for CHIP students. Other, non-JAMIA, systematic reviews can be referenced and cited in the written exam as well.

Examples of systematic reviews:

- Brandon M Welch, Kensaku Kawamoto; Clinical decision support for genetically guided personalized medicine: a systematic review, Journal of the American Medical Informatics Association, Volume 20, Issue 2, 1 March 2013, Pages 388–400, https://doi.org/10.1136/amiajnl-2012-000892
- K Ann McKibbon, Cynthia Lokker, Steven M Handler, Lisa R Dolovich, Anne M Holbrook, Daria O'Reilly, Robyn Tamblyn, Brian J Hemens, Runki Basu, Sue Troyan, Pavel S Roshanov; The effectiveness of integrated health information technologies across the phases of medication management: a systematic review of randomized controlled trials, Journal of the American Medical Informatics Association, Volume 19, Issue 1, 1 January 2012, Pages 22–30, https://doi.org/10.1136/amiajnl-2011-000304

The comprehensive exam is not a traditional systematic review. But as comprehensive view of the core research topic.

The core research topic of the written exam must be approved by the doctoral student’s advisor. The doctoral student’s committee should be notified about the core research topic, but approval is not required. Approval from the director of the program is not necessary.

**Comprehensive Oral Exam**

The primary purpose of the comprehensive exam is to evaluate whether the student has processed the major points discussed in the comprehensive exam paper. It is also an opportunity for the student’s committee to ask any clarifying questions over points made in the comprehensive exam paper.

The advisor must ensure that all committee members are satisfied with the state of the comprehensive written exam before scheduling the oral exam. Doctoral students will keep committee members up-to-date with the developments of their comprehensive exam so that the committee will be prepared to address the core research topic during the oral exam.

**Format for the Comprehensive Oral Examination**

The typical length of the oral defense is 1 to 1.5 hrs. At the beginning, the student should provide a brief, 15 to 20 min., presentation touching on the key areas covered in the comprehensive exam. The floor will then be opened for the committee members to ask follow-up questions on the scope, key observations, related research, and gaps in past research identified by the student in the comprehensive written exam.

The goal here is NOT TO TEST the MEMORIZATION ability of the student in terms of being able to regurgitate content verbatim from the comprehensive exam paper. Rather, the goal is to assess if the student grasped the core issues, past research findings, some of the major methods, and gaps in research discussed in the comprehensive exam paper.
A related goal is to ask clarifying questions and to ensure all the committee members accurately understand what the student expressed in the comprehensive paper.

The Q&A portion of the oral exam may last 45 min to an hour. After the Q&A period, the committee chair will request the student to leave the room temporarily and seek feedback from all the committee members. If all the members reach a decision (pass or fail, see below), then the student will be requested to re-enter the room and the decision will be conveyed to the student.

**A student passes an examination only after the approval of a majority of the examining committee members.**

**Note** - on certain rare occasions, a committee member may insist that the comprehensive paper be revised based on findings revealed during the oral exam, before agreeing on a pass. In such a case the committee chair will request the student to make the change and upon revision, evaluate the change in consultation with the committee member who raised the issue. If the requesting committee member is satisfied by the change, the committee member will be requested to sign-off. A repeat of the oral defense is usually not required to evaluate such revision requests.

It is permissible for the committee chair to request questions from the committee prior to the oral exam and pass on the questions to the student. It is up to committee members to voluntarily offer these questions. Committee members may come up with new or additional questions during the oral exam.

Doctoral students who fail to pass the oral examination will be allowed a single re-take within one academic year time frame. The re-take may or may not require revisions to the submitted exam. Students who do not pass the comprehensive examination on their second attempt will not be allowed to continue in the program.

Immediately after the examination has been given, results should be sent to the Program Coordinator on the [Doctoral Exam Report Form Part I & Part II](#).

**Documentation - Submit all paperwork to CHIP Program Coordinator**

**Graduate School Required Documentation**

- [Doctoral Exam Report Form: Part I & Part II](#)

**Responsibilities of Student**

It is the responsibility of the student to work with their advisor to complete their comprehensive exam within a reasonable amount of time. Once timelines are extended pass 1 semester, students will need to meet with Program Coordinator to justify delays.

Students are responsible for keeping their committee up to date on their comprehensive exam topic and draft editions.

It is the student’s responsibility to address all committee members feedback to the written comprehensive exam and oral comprehensive exam.

**Responsibilities of Advisor(s) & Committee Chair**

The advisor is responsible for guiding the students research topic for the comprehensive exam and assisting the student in gathering appropriate literature for the written portion of the exam.
The advisor/committee chair is responsible for assisting in arranging the oral comprehensive exam and verifying that all committee members have reviewed the written comprehensive exam and returned all relevant feedback to the student.

Should the student fail the oral comprehensive exam, the advisor is responsible for ensuring that the student has made appropriate revisions to the written comprehensive exam and that all committee members are satisfied with the revised comprehensive exam.

Responsibility of Dissertation Committee Members
All committee members should read and evaluate the written comprehensive exam. Written feedback should be provided to the student before the oral examination. Each committee member should prepare questions about the student’s comprehensive exam.

Committee members are responsible for approving the final version of the comprehensive exam. This may require an additional read of some or all of the written exam if extensive edits are requested.

Committee members are also responsible for ensuring that the comprehensive exam is sound in research and level of doctoral ability.

Dissertation Proposal
Dissertation Proposal
After successfully passing the comprehensive exam, the student will be required to submit a dissertation proposal which, beyond the systematic review previously completed, should include a methods section, a discussion on potential findings, and a section which anticipates limitations and ethical challenges. The proposal is not a literature review but the submission of a research question that will be the focus of the doctoral student’s dissertation. The proposal will focus on the student’s chosen methodology to address the research question. The dissertation proposal must also include thorough justification for the methodology.
Ideally, the dissertation proposal and research question will develop out of the research conducted during the comprehensive exam.

The proposal will be reviewed by the doctoral student’s dissertation committee. If the committee agrees with the student’s dissertation proposal, they will determine a suitable oral defense date for the student. The written portion and the oral defense of the proposal must be completed within one year after the student successfully completes their comprehensive exams.

When students successfully complete their proposal, they will then be allowed to proceed to the dissertation research project stage. If for any reason, the committee determines oral defense to be unsatisfactory, students will be given one additional opportunity to successfully defend the proposal; however, the second defense must be held within three months after the initial proposal defense is held.

Dissertation Proposal Format

Chapter I: Introduction (Overview of the Dissertation)

Problem Statement
Purpose of the Study
Research Questions/Hypotheses
Experimental Design Associated with Hypotheses
Significance
Contributions
Limitations

Chapter II: Background and Related Work*

Historical Background
Literature Review
Review of Theories Related to the Topic

*The Background section should be exclusively focused on very closely related past research papers that directly intersect with the research question/s or the methodology discussed in the proposal (i.e., a small subset of the papers discussed in the comprehensive paper).

Chapter III: Methodology (Details of Dissertation)

Research Questions/Hypotheses
Preliminary Studies (Optional)
Experimental Design Applied (e.g. data sources, data collection, analysis, evaluation, etc.)

Chapter IV: Timeline

Chapter V: Bibliography
At the discretion and approval of the doctoral student's advisor, the dissertation proposal should consist of 12 - 30 single-spaced pages with half-inch margins and will be done in Times New Romans, 12 point font.

Example: This dissertation proposal from The Department of Computer Science and Engineering from the University of Buffalo, SUNY is a good example covering the important sections for the dissertation proposal. In addition, it includes a section on prior research (which is optional but important to note in the case that the candidate has completed highly related preliminary work. i.e., pilot research). It is important to note that this example has a narrow scope of the prior work covered in the proposal itself (as compared to a comprehensive exam paper). In this example, the prior work or background research is covered in SECTION 3, Titled: Prior Investigations. Please note the two important dimensions of this background literature section: 1) the length is short and focused and 2) the main topic is discussing the research problem the candidate is attempting to address and very closely related past research to the problem. Another item to note is that the methods information is covered in SECTION 5, Titled: Proposed Work. UNC CHIP Dissertation Proposal should follow a similar structure with the scope and content focused on the research question/s, prior work supporting the question/s, optionally, preliminary work, the proposed method.

Dissertation Proposal Defense
• Dissertation-Proposal-Defense-Meeting-Checklist

The student must be enrolled in 3 credits of 994 hours the semester of their Dissertation Proposal Defense.

The typical length of the dissertation proposal defense is 1 to 1.5 hrs. At the beginning, the student should provide a presentation touching on the key areas covered in the methodology section of the dissertation proposal. The floor will then be opened for the committee members to ask follow-up questions on the dissertation proposal.

The goal is to determine whether the student has developed adequate methodology to address the research question and whether the student has grasped the issues surrounding their chosen dissertation research topic.

Secondary goal is for committee members to ask clarifying questions to accurately understand what the student aims to produce in the dissertation research.

The Q&A portion of the oral exam may last 45 min to an hour. After the Q&A period, the committee chair will request the student to leave the room temporarily and seek feedback from all the committee members. If all the members reach a decision (pass or fail, see below), then the student will be requested to re-enter the room and the decision will be conveyed to the student.

A student passes an examination only after the approval of a majority of the examining committee members.

Note - A graduate student who fails either a written or oral examination may not take the examination a second time until at least three months after the first attempt. The student should work with the
academic program to identify areas needing additional emphasis and to establish an action plan to prepare for taking the exam a second time.

A student who fails an examination for the second time becomes academically ineligible to continue in the Graduate School.

Immediately after the examination has been given, results should be sent to the Program Coordinator on the Dissertation Proposal Committee Form.

Documentation - Submit all paperwork to CHIP Program Coordinator

Graduate School Required Documentation

- Dissertation Proposal Committee Form

Responsibilities of Student

It is the responsibility of the student to work with their advisor to develop their dissertation proposal within 1 semester of passing their comprehensive exam. Once 1 semester has passed, students will need to meet with Program Coordinator to justify delays.

Students are responsible for keeping their committee up to date on their dissertation proposal status and draft editions.

It is the student’s responsibility to address any feedback provided by the committee on the dissertation proposal.

Responsibilities of Advisor(s) & Committee Chair

The advisor is responsible for assisting the student in developing their dissertation proposal.

The advisor/committee chair is responsible for assisting in arranging the dissertation proposal defense and verifying that all committee members have reviewed the dissertation proposal and returned all feedback to the student.

Should the student fail the dissertation proposal defense, the advisor is responsible for contacting the Program Coordinator and meeting with the relevant parties to determined next steps.

Responsibility of Dissertation Proposal Committee Members

All committee members should read and evaluate the written dissertation proposal. Written feedback should be provided to the student before the oral defense. Each committee member should prepare questions about the student’s research and the dissertation proposal.

Committee members are responsible for approving the final version of the dissertation proposal. This may require an additional read of some or all of the dissertation proposal if extensive edits are requested.

Admission to Candidacy

Admission to candidacy recognizes the achievement of a significant milestone in the career of a doctoral student and signifies that the only outstanding requirement for the degree is the dissertation. The student is then designated ABD—all but dissertation. Students will be designated as ABD after they have
passed both the doctoral written and oral comprehensive examinations, have submitted an acceptable dissertation proposal, and have completed all courses required by the program.

After passing the dissertation proposal defense, students should contact the Student Coordinator to apply for admission to candidacy.

**Documentation - Submit all paperwork to CHIP Program Coordinator**

**Graduate School Required Documentation**

**Application for Admission to Candidacy Form**

### Dissertation & Defense

#### Timing of Dissertation Research

Doctoral students have a total of 8 years to complete their doctoral degree from semester of first admittance into the program until the semester of their dissertation defense. Reapplication is required if the student goes beyond 8 years. Any student considering reapplication but first schedule a meeting with the program director, program coordinator, and advisor to discuss the student’s timeline.

Doctoral students must be enrolled in 3 credits of 994 hours during the fall and spring semesters of their dissertation research. Students will work with Program Coordinator to complete the 994 Course Registration form and Learning Contract for each enrolled semester.

Students must be enrolled in 994 during the semester of their dissertation defense (final oral defense).

#### Writing the Dissertation

The Graduate School will accept only dissertations produced according to the standards in The Graduate School’s Thesis and Dissertation Guide. Documents must be prepared in a form consistent with approved methods of scholarly writing and research. On matters of form, the student should also consult published manuals of style. Sample draft pages of the document may be pre-approved by Graduate School staff before the submission deadline, but final approvals will occur only after the student has submitted the final document.

#### The Defense (Final Oral Examination)

The final oral defense will be held only after all members of the committee have had adequate opportunity to review a draft of the doctoral dissertation. The dissertation advisor is responsible for determining that the draft is in an appropriate form for committee evaluation. If substantial revisions are necessary, they should be completed before the final oral defense is scheduled.

Candidates will work with their advisor/committee chair to schedule a dissertation defense meeting with their dissertation committee. All committee members are expected to be present at the defense. When necessary, participation via distance-based capabilities is appropriate and should be mutually agreeable to the student and other committee members.

The defense may be open to the public, limited in attendance to the candidate and the committee, or a combination of the two. Questions that relate the dissertation to the field are appropriate.

The defense will comprise of a concise presentation from the student over their dissertation research. Then a Q&A session from the committee will commence until the committee chair deems that all
appropriate questions have been addressed and all discussion of the dissertation complete. After the Q&A period, the committee chair will request the student to leave the room temporarily and seek feedback from all the committee members. After the committee members reach a decision (pass or fail, see below), then the student will be requested to re-enter the room and the decision will be conveyed to the student.

At the time of the final oral defense the committee may require alterations and corrections to the dissertation, but these should constitute relatively minor changes agreed to by a majority of the committee members. The dissertation advisor is responsible for verifying that the changes required by the committee have been made. If not done already, all committee members should sign Part IV of the Doctoral Exam Report Form. Once all minor changes have been complete by the candidate, and verified by the committee, the committee chair should initial Part IV of the Doctoral Exam Report Form.

Once the defense and dissertation are complete, all committee members should sign the Doctoral Exam Report Form: Part III & Part IV. This form should then be sent to the Program Coordinator for submission to the Graduate School for record of dissertation defense completion.

A student passes an examination only after the approval of a majority of the examining committee members.

Note - A graduate student who fails either a written or oral examination may not take the examination a second time until at least three months after the first attempt. The student should work with the academic program to identify areas needing additional emphasis and to establish an action plan to prepare for taking the exam a second time.

A student who fails an examination for the second time becomes academically ineligible to continue in the Graduate School.

Submission of Completed Dissertation
Dissertations must be submitted to The Graduate School according to the schedule in the University Registrar's Calendar in final form designed to meet the standards defined in The Graduate School's Thesis and Dissertation Guide. Documents submitted electronically will not require front page signatures.

It is strongly suggested that every document be submitted well before the deadline to ensure ample time for format revisions.

Suggested Dissertation Submission Timeline
I. Writing Dissertation
   a. To ensure that all standards are met, consult The Graduate School’s Thesis and Dissertation Guide
   b. Review and discuss how copyrighting may impact research and writing, including decisions about publishing one’s own work. The University Libraries’ Scholarly Communications Office is a campus resource on scholarly publishing practices.
   c. Take advantage of campus resources such as workshops, University Libraries, and the Writing Center.
II. Before Dissertation Defense (final oral defense)
a. Set up account in the ProQuest ETD Administrator. Review the site for useful information about the online submission process.

b. Ensure that all committee members have reviewed the final dissertation draft.

III. After Defense

a. Students should collect any edits required by committee members

b. Final approval of all edits and changes must be approved by the committee

c. Submit the completed and approved dissertation to the Graduate School. Follow the checklist and submission instructions in the Thesis and Dissertation Guide.

d. In addition to uploading a PDF of the dissertation, students should be prepared to provide added information (e.g., abstract, keywords, and subject headings) about the dissertation for indexing and identification purposes.

e. After the dissertation has been submitted, students should check email regularly for updates. Make any required revisions promptly.

f. Students will receive a final email notifying them that their ETD has been accepted. ProQuest will make the title and abstract of the dissertation available online shortly after graduation. The University Libraries will make the dissertation available within one semester.

Applying for Graduation

All candidates must apply to graduate through their ConnectCarolina accounts. Full instruction can be found at the University Registrar’s Applying for Graduation site.

Doctoral students must also be aware of Important Graduation Dates for the semester they intend to defend their dissertation in.

Documentation - Submit all paperwork to CHIP Program Coordinator

Graduate School Required Documentation

Program Certification of Degree Requirement Form

Dissertation/Defense Checklist

Doctoral Exam Report Form, Part III & Part IV

Responsibilities of the Student

It is the student’s responsibility to work with their advisor to conduct their dissertation research and write their dissertation. Students are expected to follow Graduate School standards defined in The Graduate School’s Thesis and Dissertation Guide.

Students are expected to keep their committees informed of all dissertation drafts and developments. Students are also responsible for updating the Program Coordinator about their dissertation timeline.

Under the guidance of their advisor, students are responsible for addressing all appropriate changes and edits committee members suggest to their dissertation research and final draft.

Students are responsible for submitting their completed dissertation to the Graduate School and for applying to graduate in the appropriate semester through ConnectCarolina. Students are also responsible for addressing all Important Graduation Dates for the semester they intend to graduate in.
**Responsibilities of the Advisor(s) & Committee Chair**

The responsibilities of the advisor include guiding the doctoral student’s dissertation research project and dissertation development. The advisor should be aware of all dissertation development, concerns, and if applicable, delays. The advisor is encouraged to reach out to the program with any questions or concerns about the dissertation process.

It is the advisor’s responsibility to determine when the student’s dissertation has reached a point of completion, that it can be shared with the committee. The advisor is responsible for ensuring that the student addresses all appropriate concerns and edits to the dissertation draft, submitted by the committee before the dissertation defense.

Once the advisor deems the dissertation complete, it is the responsibility of the advisor/committee chair to assist the student in arranging the dissertation oral defense with the committee. During the defense, the advisor/committee chair will be responsible for running the defense.

The advisor is responsible for ensuring that any edits or suggestions made by the committee during the defense are completed by the student and agreed to by a majority of the committee before the student submits the dissertation to the Graduate School.

**Responsibilities of the Other Dissertation Committee Members**

All committee members should read and evaluate the dissertation. Written feedback should be provided to the student before the oral defense. Each committee member should prepare questions about the student’s research and the dissertation.

Committee members are responsible for approving the final version of the dissertation. This may require an additional read of some or all of the dissertation if extensive edits are requested.

**Publications & Presentations**

There is no official requirement for CHIP PhD students to submit to peer-reviewed journals or other scholarly publications. However, students will be expected to actively participate in scholarly writing and dissemination of research through presentations and publications. Likely venues to be targeted will include national conferences such as the AMIA and IEEE meeting and high impact journals such as the Journal of the American Medical Informatics Association.